Using digital story telling to assess health students' knowledge of interprofessional roles in the care of the older adult

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▸ Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/bmjstel-2016-000136).

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Accepted 12 October 2016
Published Online First 28 October 2016

ABSTRACT

Background Digital story telling (DST) is an innovative way to allow students to assess the care needs of an older adult and creates an opportunity for interdisciplinary involvement. Traditionally, a single healthcare discipline approach is used by higher education institutions for preclinical training in the care of the older adult. Interprofessional learning (IPL) is generally not integrated well into the health professional curricula of Australian Universities.

Aim To explore the use of Mask-Ed as a way of eliciting students understanding of their roles in patient care and to determine readiness for IPL in a cohort of health students prior to clinical placement.

Method An online survey of students prior to their first clinical placement was undertaken. The survey incorporated a digital story of a Mask-Ed character and the readiness for IPL scale.

Results Students recognised the importance of IPL. However, only 25% of students had an advanced understanding of their own roles and no student showed an advanced understanding of the other disciplines roles in the care of the older adult.

Conclusions In this study, DST using Mask-Ed assisted with students' understanding of interprofessional roles in the care of the older adult. Our findings demonstrated that IPL is important, and this was further enhanced by the use of Mask-Ed simulation.

INTRODUCTION

Digital story telling (DST) allows a story to unfold through video. Kocaman-Karoglu[1] suggests that DST combines traditional story telling with media and technology to enhance students learning and increase emotional responses. DST is often used in education to allow students to tell their own stories.[2] In this case, the digital story is designed to tell the narrative of a patient. The combination of Mask-Ed (KRS simulation), henceforth Mask-Ed, an innovative simulation technique, with DST allows for the realistic portrayal of an older adult and is able to raise key issues of care. This combined modality aims to increase the students' ability to respond to a patient's story. Furthermore, the flexibility of this approach, which allows the digital story to be viewed on an online platform, allows more students to be engaged in the story.

Simulation has become ubiquitous in healthcare education and is widely recognised as a safe and effective teaching strategy.[3] However, there has been suggestion that simulation using high-fidelity manikins is removing the caring from nurse education.[4] In contrast, Mask-Ed is an innovative high-fidelity simulation technique, which embraces the embodiment of an older adult portrayed by an educator with specific experience in the care of the older adult. The technique uses silicone masks and props that disguise the educator and allow for the immersion in the technique. Evidence indicates it to be an interactive, realistic and immersive teaching tool[5] that assists in developing the art and science of care.[6] Students identify with the character that is portrayed and as such, the character becomes the platform for learning.[7] Mask-Ed is most powerful when used in a face-to-face environment, in which communication can be spontaneous and responsive; in this study, however, the technique was used to form a digital story. This story was the tool used to assess students' baseline knowledge of the roles of other disciplines in the care of an older patient. It is acknowledged that a digital story does not use the full potential of Mask-Ed; however, it draws on the visual humanistic component and allows the students to engage with a patients story and vulnerability even if they not able to interact. While the combination of simulation and interprofessional learning (IPL) is not new, we believe that this is the first study that used Mask-Ed in an interprofessional environment. Resources are a substantial consideration in the implementation of simulated learning.[8–10] As DST could be considered simulation with walls, this increases its accessibility and reduces the costs associated with implementation.

The digital story was specifically aimed at care requirements of an older adult. In 2016, 15% of the Australian population are aged 65 years or over.[11] In 40 years, almost 25% of the population will be over the age of 65 and this is the first time in Australia such a large proportion of the population will be in this age group.[11] Care of the older adult is particularly complex, with effective and optimal treatment of clinical conditions requiring input by a number of different health professionals. To optimally prevent, treat and manage such conditions, it is imperative health professionals work collaboratively; however, this is not always the case. It is therefore important to engage healthcare students, interprofessionally early in their training to ensure an understanding of the holistic treatment plan, the implications their actions can have and how to avoid errors in patient care.

Interprofessional learning

Preclinical training in the care of the older adult is traditionally undertaken in a single healthcare discipline approach by higher education institutions.

To cite: Frost J, Isbel S, Kellett J, *et al*. *BMJ Stel* 2017;**3**:5–8.

IPL in general is not integrated well into the health professional curricula of Australian Universities.[12] Moreover, ageism has been shown to exist in undergraduate health students.[13] Innovative approaches to IPL are required to overcome barriers to implementation.[12]

IPL is a widely used pedagogical framework in which to engage students from varying disciplines in an integrated and collaborative format. Defined by the Centre for the Advancement of Inter-Professional Education (CAIPE) as occurring whenever 'two or more professions learn with, from and about each other to improve collaboration and the quality of care',[14] IPL is widely recognised as a key strategy in preparing health professionals for the workforce.[15] The premise of IPL is to provide students with the skills and knowledge to engage with students and professionals from other health and non-health disciplines, so that they are better able to adapt to healthcare complexities, new modes of healthcare delivery and rapid changes in the healthcare system. Research has shown that exposure to IPL environments during clinical training develops more positive attitudes towards other professions and improve cross-discipline communication and teamwork.[16] However, a cross-sectional survey of Australian and New Zealand Universities found that formal IPL was sparse and many activities did not meet the CAIPE definition.[12] Interprofessional communication and teamwork are key to providing safe care to patients.[17] Current health education therefore needs to address interprofessional communication with students as a priority, to improve care, maintain safety and produce work ready graduates. IPL is particularly important with the care of the older adult.

This project has two aims:

1. To explore the use of Mask-Ed as a way of eliciting students understanding of their roles in patient care.
2. To determine readiness for IPL in a cohort of health students prior to clinical placement.

These aims will be met by using a preclinical digital story underpinned by Mask-Ed.

METHODS

Participants

Students enrolled in four health professional degree programmes (Undergraduate (UG)—Bachelor of Nursing; and Postgraduate (PG)—Master of Nutrition and Dietetics, Master of Occupational Therapy and Master of Physiotherapy) from a single university were invited to participate in a survey to determine their readiness for IPL and their understanding of other health professional roles in a clinical situation. Prior to the study, the students had not yet undertaken a clinical placement and were enrolled in a discipline-specific unit (not an interprofessional unit) at the time of the survey.

Data collection

The survey comprised of a modified version of the Readiness for Interprofessional Learning Scale (RIPLS),[18] and a case study involving a Mask-Ed character. The RIPLS tool is a validated tool for the assessment of IPL readiness and uses a five-point Likert scale (1, strongly disagree; 2, disagree; 3, neither agree nor disagree; 4, agree and 5, strongly agree), to indicate students' attitudes and understanding to a number of statements relating to interprofessional practices.[18] The survey was administered online using the Qualtrics survey management system.

The digital story was presented in a 3 min video format and consisted of the case file of an older adult, 'Elsie' (figure 1). 'Elsie' is a woman aged 65 years recently admitted to hospital with a fractured neck of femur. Elsie is uncertain about how she will regain her former independence and in particular, is considering how difficult it will be to return to her usual life as she lives alone. She is in pain, has lost her appetite, finds mobilising difficult and is feeling very vulnerable. In keeping with the Mask-Ed modality, Elsie is a comprehensive character with a full social and medical history and she is introduced to the students in a digital story. After watching the video, students were asked to identify the roles of different disciplines in the care of the individual portrayed.

Figure 1 Mask-Ed character—Elsie Jones.

Data analysis

Medians were derived and principal component analysis of RIPLS responses with varimax rotation was performed to identify clustering of items. Internal consistency measures (Cronbach's α) were obtained. For the digital story, student responses identifying the role of each discipline were rated as having: a 'poor understanding'—a very limited understanding of the role and scope of the professional; 'some understanding'—some of the relevant roles of the professional were identified; or, 'advanced understanding'—a very good depth of understanding of the role of the professional. The responses were rated by a member of each discipline according to predetermined marking criteria, and validated by a second member of the research team.

RESULTS

Thirty students from four disciplines: dietetics (n=11), nursing (n=10), occupational therapy (n=3) and physiotherapy (n=6) completed the case-study component of the survey, while 26 students completed the RIPLS survey. This was a response rate of 22% (n=30/138). Of the 30 students, 23 were in their first year of their course and 7 in their second year. Nineteen students were under

24 years of age and only two students were on international visas. Approximately one-quarter of respondents indicated they had worked in a clinical health field prior to enrolling in their current degree, with prior clinical experience ranging from 2 to 7 years.

Interprofessional readiness

Statements aligned into three factors with an overall internal consistency of 0.71. The online supplementary table displays the factor loadings for each statement. The factors align with those published by Reid *et al*:[19] factor 1—teamwork and collaboration; factor 2—professional identity; and factor 3—roles and responsibilities. Factor 1 comprised the majority of statements, 13/19. With a factor loading of 0.93 'Shared learning will help me think professionally about other professionals' was the strongest statement in factor 1. This was closely followed by the statement 'Communication skills should be learned with other health-care professionals' with a factor loading of 0.87. Factors 2 and 3 showed relatively low factor loadings with five statements contributing to factor 2 and two statements to factor 3. Two statements, 'I don't want to waste my time learning with other health-care professionals' and 'I feel competent interacting with students of the other disciplines', were not included as their factor level was <0.2.

The digital story

Overall, only 25% of all students had an 'advanced understanding' of their own role in the case study, while 64% had 'some understanding'. When understanding the role of other health professionals in the example case study, no student showed an 'advanced understanding'.

Fifty-two per cent of participants showed 'some understanding' of the role of the occupational therapist, with only one occupational therapy student demonstrating an 'advanced understanding' of their own role, with this student stating their role was '*to modify tasks and environment to enable Elsie to participate in occupations that are important to her like driving, sleeping upstairs, playing bowls* etc'. In comparison, a non-occupational therapy student exhibited a 'poor understanding' of the role of an occupational therapist by stating the role as, '*Stairs. mobilising independently*'.

Approximately 88% of the non-dietetic participants showed 'some understanding' of the role of the dietitian, with four dietetics students demonstrating an 'advanced understanding'. A dietetic student showed an 'advanced understanding' through the following, '*To ensure she [Elsie] has good nutrition to help her prevent further weight loss, potentially put weight back on, ensure her diet is adequate for her needs and make sure deficiencies do not occur, also to assist in maintaining sufficient bone mass to prevent osteoporosis*'. While a non-dietetic student demonstrated 'poor understanding' of the role of the dietitian by the comment, '*to ensure Elsie is able to eat well*'.

Seventy-eight per cent of the non-nursing students exhibited a 'poor understanding' of the role of the nurse, with one nursing student demonstrating 'advanced understanding'. An example of 'advanced understanding' was, "as the person providing care for her in the hospital and assisting with her daily tasks they should be able to recognise what she will need help with with once leaving the hospital and which health disciplines can help that. Hopefully they will also listen to her concerns and worries about what her future life will be like and ally any fears." An example of 'poor understanding' from a non-nursing student was, 'self care'.

Of all responses, only two physiotherapy students were able to demonstrate an 'advanced understanding' of the role of the physiotherapist in the care of 'Elsie', for example: "Help her get back to her normal function (Range of movement, stability, strength) and help improve pain management. Teach her how to use gait assistive devices." An example of a poor understanding was, "Providing exercises".

DISCUSSION

To the best of our knowledge, this is the first project that has used Mask-Ed in an interdisciplinary online digital story to examine health students' knowledge of other disciplines role in the care of an older adult. The combination of Mask-Ed and DST has the potential to enhance classroom interaction and promote better understanding of interprofessional roles. This methodology could be considered to be 'simulation without walls', it is portable and can be used in multiple classrooms or interactive platforms at the same time. The experience is realistic and engaging and has the potential to be used to explore different roles in the care of an older adult. The understanding that is developed from this case study could assist in the facilitation of IPL. We are aware that DST does not use the full potential of the Mask-Ed modality. However, this study was used to gain baseline data and to give students an awareness of the character of 'Elsie' and her background before we introduce further Mask-Ed in the face-to-face environment. We suggest that Mask-Ed and other simulation tools may assist educators in developing awareness of other interprofessional roles. Mask-Ed used within a digital story has the potential to bring to life a case study and allow the exploration of the diferent roles of care in the classroom. Furthermore, we suggest that IPL should be introduced into preclinical teaching and learning to enhance preparedness for the clinical setting.

In relation to the first aim of this study, the RIPLS measure indicated that the participants in this project had an understanding of the importance of IPL in the care of an older adult. However, the participants did not demonstrate an understanding of how other professionals could add to the care of an older adult. This indicates that the participants in this study required further instruction and knowledge in the role of IPL in healthcare. These findings are supported by the DST component of the project where only one-quarter of students had an advanced understanding of their own role and no student had an advanced understanding of the role of other health professions, thus addressing the second aim of the study.

These findings highlight the importance of incorporating IPL into the curricula for all healthcare professionals. Furthermore, this study shows that DST using Mask-Ed is an effective modality to create awareness of health professional roles in healthcare. Our study describes a novel way of introducing IPL into the curriculum for some health students, which is something that is not well performed in Australia and New Zealand currently. It is particularly pertinent in the care of the older adult as the total number of older people using health services increases. Health professionals will need to know how their profession can interact with other professions to enable the best results for older people. Teaching IPL in the early stages of health education is important. If IPL is taught in all stages of health education, graduates are more likely to use the skills, knowledge and attitudes attributed to IPL when they graduate.[12]

Limitations

There were two main limitations in our study. First, we had a low response rate. Second, students from a limited number of health disciplines were invited to participate. Including participants from a wider range of health disciplines may further highlight the benefits of IPL.

CONCLUSION

The RIPLS scores in this study highlight the need for IPL. The use of DST using Mask-Ed further demonstrates the need for IPL in health students prior to clinical placement by highlighting their limited understanding of interprofessional roles. This research addressed IPL in a unique, innovative way that could be understood as 'simulation without walls'. Innovative approaches to IPL are required to facilitate wider implementation of IPL in health education. DST using Mask-Ed is a cost-effective way to deliver education across disciplines and could assist in educating health students in the roles of other disciplines. The results of this project highlight a need for interprofessional simulation approaches to be integrated into health curricula. Simulation experiences that explore care provided by different disciplines have the potential to improve patient care and reduce the current silos seen in health education. We suggest that the use of the DST technique combined with Mask-Ed is an innovative way to explore interprofessional roles and has the potential to be developed into an IPL interactive simulation.

Acknowledgements The authors would like to highlight that the image of Elsie Jones is that of a Mask-Ed character and not a real patient and they thank Bernie Bissett for her assistance with data analysis.

Competing interests None declared.

Ethics approval University of Canberra.

Provenance and peer review Not commissioned; externally peer reviewed.

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